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U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK

ATTORNEY'S DOCKET NUMBER

**TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A FILING UNDER 35 U.S.C. § 371**

449122021200

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)

10/049889  
Not yet assigned

INTERNATIONAL APPLICATION NO.

INTERNATIONAL FILING DATE

PRIORITY DATE CLAIMED

PCT/DE00/02763

August 16, 2000

August 18, 1999

TITLE OF INVENTION

**METHOD FOR UPDATING SUBSCRIBER-RELATED DATA IN A TELECOMMUNICATIONS NETWORK**

APPLICANT(S) FOR DO/EO/US

**Norbert LOEBIG**

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

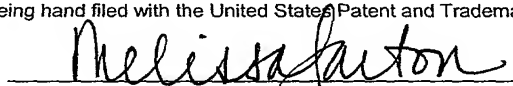
1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. ☒ The US has been elected by the expiration of 19 months from the priority date (PCT Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
  - a. ☒ is attached hereto (required only if not communicated by the International Bureau).
  - b. ☒ has been communicated by the International Bureau.
  - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ An English language translation of the International Application under PCT Article 19 (35 U.S.C. 371(c)(2)).
  - a. ☒ is attached hereto.
  - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).
  - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
  - b. ☐ have been communicated by the International Bureau.
  - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
  - d. ☐ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

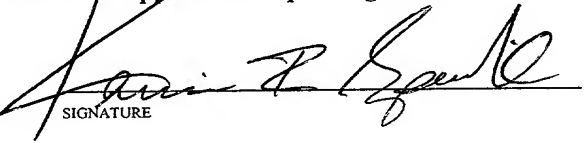
Items 11. to 16. below concern document(s) or information included:

11. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A FIRST preliminary amendment.
14. ☐ A SECOND or SUBSEQUENT preliminary amendment.
15. ☐ A substitute specification.
16. ☐ A change of power of attorney and/or address letter.
17. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
18. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
19. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. ☒ Other items or information: 1) Application Data Sheet; 2) Int'l Search Report; 3) IPER; 4) Return receipt postcard.

**CERTIFICATE OF HAND DELIVERY**

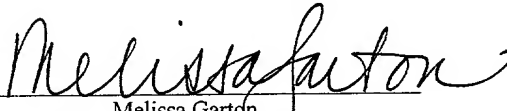
I hereby certify that this correspondence is being hand filed with the United States Patent and Trademark Office in Washington, D.C. on February 19, 2002.

  
Melissa Garton

U.S. APPLICATION NO. (if known, see 37 CFR 1.5) Not yet assigned <b>10/049889</b>		INTERNATIONAL APPLICATION NO. PCT/DE00/02763		ATTORNEY DOCKET NO. 449122021200	
21. <input checked="" type="checkbox"/> The following fees are submitted: <b>BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)):</b>  Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO.....\$1,000.00  International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO.....\$890.00  International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO.....\$710.00  International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provision of PCT Article 33(1)-(4) .....\$690.00  International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) .....\$100.00				<b>CALCULATIONS</b> PTO USE ONLY	
<b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b>				\$890.00	
Surcharge of <b>\$130.00</b> for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				\$0	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	- 20 =		x \$18.00	\$0	
Independent claims	- 3 =		x \$80.00	\$0	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$270.00	\$0	
<b>TOTAL OF ABOVE CALCULATIONS =</b>				\$890.00	
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				\$0	
<b>SUBTOTAL =</b>				\$890.00	
Processing fee of <b>\$130.00</b> for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$0	
<b>TOTAL NATIONAL FEE =</b>				\$890.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). <b>\$40.00 per property</b>				\$40.00	
<b>TOTAL FEES ENCLOSED =</b>				\$930.00	
				<b>Amount to be refunded:</b>	\$
				<b>charged:</b>	\$
a. <input checked="" type="checkbox"/> Please charge my <b>Deposit Account No. 03-1952</b> (referencing Docket No. 449122021200) in the amount of \$930.00 to cover the above fees. A duplicate copy of this sheet is enclosed.  b. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees that may be required, or credit any overpayment to <b>Deposit Account No. 03-1952</b> (referencing Docket No. 449122021200).					
<p><b>NOTE:</b> Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.</p> <p>SEND ALL CORRESPONDENCE TO:</p> <div style="display: flex; justify-content: space-between;"> <div>                         Kevin R. Spivak                          Morrison &amp; Foerster LLP                          2000 Pennsylvania Avenue, N.W.                          Washington, D.C. 20006-1888                     </div> <div style="text-align: center;">                           SIGNATURE                           Kevin R. Spivak                          Registration No. 43,148                           February 19, 2002                     </div> </div>					

CERTIFICATE OF HAND DELIVERY

I hereby certify that this correspondence is being hand filed with the United States Patent and Trademark Office in Washington, D C. on February 19, 2002.

  
Melissa Garton

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Norbert LOEBIG

Serial No.: Not yet assigned

Filing Date: February 19, 2002

For: METHOD FOR UPDATING  
SUBSCRIBER-RELATED DATA  
IN A TELECOMMUNICATIONS  
NETWORK

Examiner: Not yet assigned

Group Art Unit: Not yet assigned

PRELIMINARY AMENDMENT

BOX PCT

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to examination on the merits, please amend this application as follows:

In the Specification:

Page 1 before the first paragraph, please delete the following:

Description

Page 1, between lines 5 and 6, please insert the following headings and paragraph:

CLAIM FOR PRIORITY

This application claims priority to International Application No. PCT/DE00/02763 which was published in the German language on August 16, 2000.

TECHNICAL FIELD OF THE INVENTION

2005-02-19 09:03:40

Please replace the paragraph beginning line 6 of page 1 with the following rewritten paragraph:

The invention relates to a method of updating subscriber-related data in a network.

Page 1, between lines 8 and 9, please insert the following heading:

#### BACKGROUND OF THE INVENTION

Please replace the paragraph beginning line 20 of page 3 with the following rewritten paragraph:

This results in the following technical problem:

How can the database (which is loaded in an announcement, fax retrieval or dialog device in a switching center for the purpose of trial activation) for an individual network customer be made available in the same switching center and throughout the network to all the announcement, fax retrieval and dialog devices associated with this customer, without the customer explicitly needing to address the devices involved and having to carry out and monitor sequential transmission of the updated database at the customer end? A further problem that arises in this case is that fault situations in the network (for example failure of a switching center or of a device that is involved) or changes to the network topology (for example extensions to the announcement capacity in the switching centers) can affect the operator interface of the announcement, fax retrieval and dialog customer, and may thus necessitate specific action. A further problem is that time restrictions (for example changes relating only to specific times of the day) or dependencies on the network operator (for example the use of maintenance personnel) exist and, finally, there is a risk of data being lost.

Page 4, between lines 25 and 26, please insert the following headings and paragraphs:

#### SUMMARY OF THE INVENTION

In one embodiment of the invention, there is a method for updating subscriber-related data records, which are stored locally in a number of service devices in a switching network. The method includes, for example, providing administrative measures for each data record which is stored in one of the service devices, to store a list of the addresses of the other service devices which store the data record and addressing each data record in a standard manner throughout the network, wherein a change to the data record is carried out on one of the service devices which

stores the corresponding data record, and the service device reports the change throughout the network to the other service devices.

In another aspect of the invention, the service devices are included in the peripherals of a communications system.

In another aspect of the invention, the service devices are included in the network nodes of a switching network.

In yet another aspect of the invention, the lists are updated in the course of administration of the switching network or of the communications system.

In another aspect of the invention, an old data record is stored until the initiation of the network-wide or switching-center-wide updating by the customer.

In another aspect of the invention, the data record is updated by the service devices which initially have a new data record during a background process for successive updating of the other service devices.

In still another aspect of the invention, repeated cyclic updating attempts are performed in the background process if the service devices to be updated are inaccessible or the attempts are unsuccessful.

In another aspect of the invention, the method includes utilizing connections which have been made temporarily between the service devices in order to update the data records.

In another aspect of the invention, an update-specific communication occurs between the service devices via a switching-center-internal message distribution system or, throughout the network, via ISDN user-to-user signaling, or switching-center internally and throughout the network via the Internet Protocol.

In yet another aspect of the invention, a number of data records are updated via one updating connection.

In another aspect of the invention, the updating format is defined in the course of the communication between the service devices.

In another aspect of the invention, the time required for updating is reduced by multiple channel connection and/or multiple starting of the background process.

In still another aspect of the invention, the method includes updating a time stamp to the update to prevent the current data record from being overwritten by older data records when a number of updating background processes are carried out at the same time.

In another aspect of the invention, activation of the background processes of service devices which are still in operation is carried out to update service devices which are being taken back into operation again after repair.

#### BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be explained in more detail in the following text with reference to an exemplary embodiment, which is illustrated in the figures, in which:

Figure 1 shows the typical architecture of a communications system.

Figure 2 shows an architecture of a service device which is integrated in a switching center.

Figure 3 shows the connection processes and internal communication between integrated service devices.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Please replace the paragraph beginning line 26 of page 4 with the following rewritten paragraph:

In one embodiment of the invention, information can be updated from the customer end easily, reliably, at the right time and in a user-friendly manner.

Please delete the paragraph beginning at line 31 of page 4 in its entirety.

Please replace the paragraph beginning line 35 of page 4 with the following rewritten paragraph:

One advantage of the invention is that administrative measures are taken to ensure that, for each data record which is stored in one of the service devices, a list is kept of the addresses of the other service devices which likewise keep the data record, that each data record can be addressed in a standard manner throughout the network, and that a change, initiated by the customer, to the data record is carried out on one of the service devices which keep that data

record, and the service device reports this change throughout the network to the other service devices. This is associated with the advantage that changes to the announcement, fax and dialog functions can be carried out not only by the network operator but also, in particular, by the customer himself.

Please delete the paragraph beginning at line 14 of page 5 in its entirety.

Please delete the paragraph beginning at line 17 and ending at line 30 on page 5 in its entirety.

Please replace the paragraph beginning line 4 of page 6 with the following rewritten paragraph:

The peripheral devices  $LTG_1 \dots LTG_n$  carry out switching tasks associated with the speech channels of the peripheral device. They include switching, operating and administrative programs as well as the data information associated with the device, such as the access situation, signaling, authorizations, telephone numbers, individual characteristics of connecting lines and subscriber connections, as well as the extent state and configuration of the peripheral device. Devices IP which have the function of service devices are integrated as part of an integrated solution in one of the peripheral devices  $LTG_{IP}$ .

Please replace the paragraph beginning line 1 of page 7 with the following rewritten paragraph:

In figure 2, the process of setting up a connection  $V_1$  to an integrated announcement device OCANEQ via an analog connecting line or an ISDN connecting line is controlled by a subscriber (direct recording). The process of setting up connections can likewise be controlled separately via a PC. Once the speaking of the announcement text to the integrated announcement device OCANEQ has been completed, the latter sets up a further connection  $V_2$  to a further integrated announcement device OCANEQ in a further peripheral device LTG (single update). The integrated announcement device OCANEQ arranged there is updated using the announcement text. If the original integrated announcement device OCANEQ has failed, a further connection  $V_3$  can be set up to once again store the transmitted announcement text back in the original integrated announcement device OCANEQ on startup (mass update after repair).

Please replace the paragraph beginning line 26 of page 7 with the following rewritten paragraph:

The invention provides for the announcement, fax retrieval and dialog capacities of the telecommunications network to be administered. In particular in this case, an association is made between the specific capacity and the customer using this capacity. The peripheral devices LTG<sub>IP</sub> which provide the corresponding customer announcements, fax retrieval data or speech recognition data in the communications systems or external intelligent peripherals IP are informed, in the course of administration of these network functions, of the list (which is associated with the respective data record to be stored) of all the other integrated or external intelligent peripherals IP in the network which keep this data record available. In this case, the data record is identified by a standard network index (for example the fragment number of the announcement fragment). Furthermore, the list of the further internal or external intelligent peripherals IP includes the network-standard addresses of the IPs themselves. In general, this may be a list of telephone numbers which are applicable throughout the network, and in the case of integrated IPs, it may also include the connection situations of the integrated IPs applicable within the switching center.

Please replace the consecutive paragraphs beginning at line 30 of page 9 with the following rewritten paragraphs:

Once the updating has been carried out, connections such as these are cleared down once again. If it has been possible to set up a connection, then the actual updating, that is to say the transmission of the amended data record in the further IP, requires communication between the IPs that are involved. For example, the IP that is being addressed should preferably know the index of the data record to be updated. The nature of the update may also need to be signaled (for example, in the case of announcements, the playing of the start and end tone, or protocol-protected transmission via PPP). It is also preferable to transmit the readiness of the addressed IP for updating, as well as success acknowledgement, failure acknowledgement and repetition request, between the two IPs. Network-wide user-to-user messages and/or reports carried within the switching center via the message distribution system may also be used for such information interchange between the relevant IPs. If it is not possible to contact an IP to be updated, as can occur, for example, due to hardware failures, then the background process mentioned above will start updating attempts once again, cyclically. An updating connection which has been switched to another IP can be used to update a number of data records. This connection is expediently



cleared only when there are no further data records for this IP, which is setting up the connection, to be updated in the direction of the further IP.

When long data records need to be distributed between a large number of IPs, the time required for a complete network-wide update may rise in an unacceptable manner. In cases such as this, the updating connection may be given a wider bandwidth (for example  $n \times 64$  kbit/s), and/or a number of other IPs may be updated at the same time.

**In the Claims:**

**What is claimed is:**

1. (Amended) A method for updating subscriber-related data records, which are stored locally in a number of service devices in a switching network, comprising:  
providing administrative measures, for each data record which is stored in one of the service devices, to store a list of the addresses of the other service devices which store the data record; and  
addressing each data record in a standard manner throughout the network, wherein a change to the data record is carried out on one of the service devices which stores the corresponding data record, and the service device reports the change throughout the network to the other service devices.
2. (Amended) The method as claimed in claim 1,  
wherein the service devices are included in the peripherals of a communications system.
3. (Amended) The method as claimed in claim 1,  
wherein the service devices are included in the network nodes of a switching network.
4. (Amended) The method as claimed in claim 1,  
wherein the lists are updated in the course of administration of the switching network or of the communications system.
5. (Amended) The method as claimed in claim 1,

wherein an old data record is stored until the initiation of the network-wide or switching-center-wide updating by the customer.

6. (Amended) The method as claimed in claim 1,  
wherein the data record is updated by the service devices which initially have a new data record during a background process for successive updating of the other service devices.

7. (Amended) The method as claimed in claim 6,  
wherein repeated cyclic updating attempts are performed in the background process if the service devices to be updated are inaccessible or the attempts are unsuccessful.

8. (Amended) The method as claimed in claim 1,  
further comprising utilizing connections which have been made temporarily between the service devices in order to update the data records.

9. (Amended) The method as claimed in claim 1,  
wherein an update-specific communication occurs between the service devices via a switching-center-internal message distribution system or, throughout the network, via ISDN user-to-user signaling, or switching-center internally and throughout the network via the Internet Protocol.

10. (Amended) The method as claimed in claim 1,  
wherein a number of data records are updated via one updating connection.

11. (Amended) The method as claimed in claim 10,  
wherein the updating format is defined in the course of the communication between the service devices.

12. (Amended) The method as claimed in claim 11,  
wherein the time required for updating is reduced by multiple channel connection and/or multiple starting of the background process.

13. (Amended) The method as claimed in claim 12,  
further comprising updating a time stamp to the update to prevent the current data record  
from being overwritten by older data records when a number of updating background processes  
are carried out at the same time.

14. (Amended) The method as claimed in claim 6,  
wherein activation of the background processes of service devices which are still in  
operation is carried out to update service devices which are being taken back into operation again  
after repair.

**In the Abstract:**

Please replace the Abstract with the substitute Abstract attached hereto.

## REMARKS

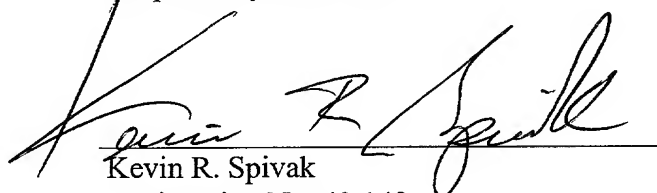
The above amendments to the specification, claims, and abstract have been made to place the application in proper U.S. format and to conform with proper grammatical and idiomatic English. None of the amendments herein are made for reasons related to patentability. No new matter has been added.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made".

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 449122021200. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

Dated: February 19, 2002

  
Kevin R. Spivak  
Registration No. 43,148

Morrison & Foerster LLP  
2000 Pennsylvania Avenue, N.W.  
Washington, D.C. 20006-1888  
Telephone: (202) 887-6924  
Facsimile: (202) 263-8396

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

For the convenience of the Examiner, the changes made are shown below with deleted text in strikethrough and added text in underline.

**In the Specification:**

Page 1 before the first paragraph, please delete the following:

~~Description~~

Page 1, between lines 5 and 6, please insert the following headings and paragraph:

**CLAIM FOR PRIORITY**

This application claims priority to International Application No. PCT/DE00/02763 which was published in the German language on August 16, 2000.

**TECHNICAL FIELD OF THE INVENTION**

Please replace the paragraph beginning line 6 of page 1 with the following rewritten paragraph:

The invention relates to a method ~~as claimed in the precharacterizing clause of patent claim 1~~ of updating subscriber-related data in a network.

Page 1, between lines 8 and 9, please insert the following heading:

**BACKGROUND OF THE INVENTION**

Please replace the paragraph beginning line 20 of page 3 with the following rewritten paragraph:

This results in the following technical problem:

How can the database (which is loaded in an announcement, fax retrieval or dialog device in a switching center for the purpose of trial activation) for an individual network customer be made available in the same switching center and throughout the network to all the announcement, fax retrieval and dialog devices associated with this customer, without the customer explicitly needing to address the devices involved and having to carry out and monitor

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sequential transmission of the updated database at the customer end. A further problem that arises in this case is that fault situations in the network (for example failure of a switching center or of a device that is involved) or changes to the network topology (for example extensions to the announcement capacity in the switching centers) can affect the operator interface of the announcement, fax retrieval and dialog customer, and may thus necessitate specific action. A further problem is that time restrictions (for example changes relating only to specific times of the day) or dependencies on the network operator (for example the use of maintenance personnel) exist and, finally, there is a risk of data being lost.

Page 4, between lines 25 and 26, please insert the following headings and paragraphs:

#### SUMMARY OF THE INVENTION

In one embodiment of the invention, there is a method for updating subscriber-related data records, which are stored locally in a number of service devices in a switching network. The method includes, for example, providing administrative measures for each data record which is stored in one of the service devices, to store a list of the addresses of the other service devices which store the data record and addressing each data record in a standard manner throughout the network, wherein a change to the data record is carried out on one of the service devices which stores the corresponding data record, and the service device reports the change throughout the network to the other service devices.

In another aspect of the invention, the service devices are included in the peripherals of a communications system.

In another aspect of the invention, the service devices are included in the network nodes of a switching network.

In yet another aspect of the invention, the lists are updated in the course of administration of the switching network or of the communications system.

In another aspect of the invention, an old data record is stored until the initiation of the network-wide or switching-center-wide updating by the customer.

In another aspect of the invention, the data record is updated by the service devices which initially have a new data record during a background process for successive updating of the other service devices.

In still another aspect of the invention, repeated cyclic updating attempts are performed in the background process if the service devices to be updated are inaccessible or the attempts are unsuccessful.

In another aspect of the invention, the method includes utilizing connections which have been made temporarily between the service devices in order to update the data records.

In another aspect of the invention, an update-specific communication occurs between the service devices via a switching-center-internal message distribution system or, throughout the network, via ISDN user-to-user signaling, or switching-center internally and throughout the network via the Internet Protocol.

In yet another aspect of the invention, a number of data records are updated via one updating connection.

In another aspect of the invention, the updating format is defined in the course of the communication between the service devices.

In another aspect of the invention, the time required for updating is reduced by multiple channel connection and/or multiple starting of the background process.

In still another aspect of the invention, the method includes updating a time stamp to the update to prevent the current data record from being overwritten by older data records when a number of updating background processes are carried out at the same time.

In another aspect of the invention, activation of the background processes of service devices which are still in operation is carried out to update service devices which are being taken back into operation again after repair.

#### BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be explained in more detail in the following text with reference to an exemplary embodiment, which is illustrated in the figures, in which:

Figure 1 shows the typical architecture of a communications system.

Figure 2 shows an architecture of a service device which is integrated in a switching center.

Figure 3 shows the connection processes and internal communication between integrated service devices.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Please replace the paragraph beginning line 26 of page 4 with the following rewritten paragraph:

~~The~~ In one embodiment of the invention, ~~is based on the object of finding a way in which~~ information can be updated from the customer end easily, reliably, at the right time and in a user-friendly manner.

Please delete the paragraph beginning at line 31 of page 4 in its entirety.

Please replace the paragraph beginning line 35 of page 4 with the following rewritten paragraph:

~~The invention has the particular~~ One advantage of the invention is that administrative measures are taken to ensure that, for each data record which is stored in one of the service devices, a list is kept of the addresses of the other service devices which likewise keep ~~this the~~ data record, that each data record can be addressed in a standard manner throughout the network, and that a change, initiated by the customer, to the data record is carried out on one, ~~and only one,~~ of the service devices which keep that data record, and ~~this the~~ service device reports this change throughout the network to the other service devices. This is associated with the advantage that changes to the announcement, fax and dialog functions can be carried out not only by the network operator but also, in particular, by the customer himself.

Please delete the paragraph beginning at line 14 of page 5 in its entirety.

Please delete the paragraph beginning at line 17 and ending at line 30 on page 5 in its entirety.

Please replace the paragraph beginning line 4 of page 6 with the following rewritten paragraph:

The peripheral devices  $LTG_1 \dots LTG_n$  carry out ~~major~~ switching tasks associated with the speech channels of the peripheral device. They ~~thus contain~~ include switching, operating and administrative programs as well as the data information associated with the device, such as the access situation, signaling, authorizations, telephone numbers, individual characteristics of connecting lines and subscriber connections, as well as the extent state and configuration of the



peripheral device. Devices IP which have the function of service devices are integrated as part of an integrated solution in one of the peripheral devices LTG<sub>IP</sub>.

Please replace the paragraph beginning line 1 of page 7 with the following rewritten paragraph:

~~First of all~~ In figure 2, the process of setting up a connection  $V_1$  to an integrated announcement device OCANEQ via an analog connecting line or an ISDN connecting line is controlled by a subscriber (direct recording). The process of setting up connections can likewise be controlled separately via a PC. Once the speaking of the announcement text to the integrated announcement device OCANEQ has been completed, the latter sets up a further connection  $V_2$  to a further integrated announcement device OCANEQ in a further peripheral device LTG (single update). The integrated announcement device OCANEQ arranged there is updated using the announcement text. If the original integrated announcement device OCANEQ has failed, a further connection  $V_3$  can be set up to once again store the transmitted announcement text back in the original integrated announcement device OCANEQ on startup (mass update after repair).

Please replace the paragraph beginning line 26 of page 7 with the following rewritten paragraph:

The invention ~~now~~ provides for the announcement, fax retrieval and dialog capacities of the telecommunications network to be administered. In particular in this case, an association is made between the specific capacity and the customer using this capacity. The peripheral devices LTG<sub>IP</sub> which provide the corresponding customer announcements, fax retrieval data or speech recognition data in the communications systems or external intelligent peripherals IP are informed, in the course of administration of these network functions, of the list (which is associated with the respective data record to be stored) of all the other integrated or external intelligent peripherals IP in the network which keep this data record available. In this case, the data record is identified by a standard network index (for example the fragment number of the announcement fragment). Furthermore, the list of the further internal or external intelligent peripherals IP includes the network-standard addresses of the IPs themselves. In general, this may be a list of telephone numbers which are applicable throughout the network, and in the case of integrated IPs, it may also include the connection situations of the integrated IPs applicable within the switching center.

Please replace the consecutive paragraphs beginning at line 30 of page 9 with the following rewritten paragraphs:

Once the updating has been carried out, connections such as these are cleared down once again. If it has been possible to set up a connection, then the actual updating, that is to say the transmission of the amended data record in the further IP, requires communication between the IPs that are involved. For example, the IP that is being addressed ~~must~~ should preferably know the index of the data record to be updated. The nature of the update may also need to be signaled (for example, in the case of announcements, the playing of the start and end tone, or protocol-protected transmission via PPP). It ~~must also be possible~~ is also preferable to transmit the readiness of the addressed IP for updating, as well as success acknowledgement, failure acknowledgement and repetition request, between the two IPs. Network-wide user-to-user messages and/or reports carried within the switching center via the message distribution system may also be used for such information interchange between the relevant IPs. If it is not possible to contact an IP to be updated, as can occur, for example, due to hardware failures, then the background process mentioned above will start updating attempts once again, cyclically. An updating connection which has been switched to another IP can be used to update a number of data records. This connection is expediently cleared only when there are no further data records for this IP, which is setting up the connection, to be updated in the direction of the further IP.

~~Particularly w~~When long data records need to be distributed between a large number of IPs, the time required for a complete network-wide update may rise in an unacceptable manner. In cases such as this, the updating connection may be given a wider bandwidth (for example  $n \times 64$  kbit/s), and/or a number of other IPs may be updated at the same time.

### **In the Claims:**

#### **Patent Claims**

#### **What is claimed is:**

1. (Amended) A method for updating subscriber-related data records, which are stored locally in a number of service devices (~~IP, OCANEQ~~) in a switching network, comprising:  
~~characterized~~  
~~in that providing~~ administrative measures ~~are taken to ensure that~~, for each data record which is stored in one of the service devices (~~IP, OCANEQ~~), to store a list ~~is kept~~ of the

addresses of the other service devices (~~IP, OCANEQ~~) which likewise keep this store the data record; and

~~in that~~ addressing each data record ~~can be addressed in a standard manner throughout the network, and in that wherein a change, initiated by the customer, to the data record is carried out on one, and only one, of the service devices (IP, OCANEQ) which keep that stores the corresponding data record, and the service device (IP, OCANEQ) reports this the change throughout the network to the other service devices (IP, OCANEQ).~~

2. (Amended) The method as claimed in claim 1,  
~~characterized~~  
~~in that wherein~~ the service devices are included in the peripherals of a communications system (~~OCANEQ~~).

3. (Amended) The method as claimed in claim 1,  
~~characterized~~  
~~in that wherein~~ the service devices are included in the network nodes of a switching network.

4. (Amended) The method as claimed in ~~claims 1 to 3~~ claim 1,  
~~characterized~~  
~~in that wherein~~ the lists are updated in the course of administration of the switching network or of the communications system.

5. (Amended) The method as claimed in ~~claims 1 to 4~~ claim 1,  
~~characterized~~  
~~in that the wherein an~~ old data record is ~~kept available~~ stored until the initiation of the network-wide or switching-center-wide updating by the customer.

6. (Amended) The method as claimed in ~~one of the preceding claims~~ claim 1,  
~~characterized~~

in that wherein the data record is updated by these the service devices (~~IP, OCANEQ~~) which initially have ~~the~~ a new data record, ~~in the course of~~ during a background process for successive updating of the other service devices (~~IP, OCANEQ~~).

7. (Amended) The method as claimed in ~~one of the preceding claims~~ claim 6, characterized  
~~in that~~ wherein repeated cyclic updating attempts are ~~carried out~~ performed in the background process if the service devices (~~IP, OCANEQ~~) to be updated are inaccessible or the attempts are unsuccessful.

8. (Amended) The method as claimed in ~~one of the preceding claims~~ claim 1, characterized  
~~in that use is made, when required, of~~ further comprising utilizing connections which have been made temporarily between the service devices (~~IP, OCANEQ~~) in order to update the data records.

9. (Amended) The method as claimed in ~~one of the preceding claims~~ claim 1, characterized  
~~in that~~ wherein an update-specific communication ~~takes place~~ occurs between the service devices (~~IP, OCANEQ~~) via a switching-center-internal message distribution system (~~MB~~) or, throughout the network, via ISDN user-to-user signaling, or switching-center internally and throughout the network via the Internet Protocol.

10. (Amended) The method as claimed in ~~one of the preceding claims~~ claim 1, characterized  
~~in that~~ wherein a number of data records are updated via one updating connection, ~~once it~~ has been connected.

11. (Amended) The method as claimed in ~~one of the preceding claims~~ claim 10, characterized

in that wherein the updating format is defined in the course of the communication between the service devices (~~IP, OCANEQ~~).

12. (Amended) The method as claimed in ~~one of the preceding claims~~ claim 11, characterized  
in that wherein the time required for updating is reduced by multiple channel connection and/or multiple starting of the background process.

13. (Amended) The method as claimed in ~~one of the preceding claims~~ claim 12, characterized  
in that ~~the customer allocates~~ further comprising updating a time stamp to the update in order to prevent the current data record from being overwritten by older data records when a number of updating background processes are carried out at the same time.

14. (Amended) The method as claimed in ~~one of the preceding claims~~ claim 6, characterized  
in that ~~explicit~~ wherein activation of the background processes of service devices (~~IP, OCANEQ~~) which are still in operation is carried out in order to update service devices (~~IP, OCANEQ~~) which are being taken back into operation again after repair, ~~without delay and~~ quickly.

**In the Abstract:**

Please replace the Abstract with the substitute Abstract attached hereto.

# METHOD FOR UPDATING SUBSCRIBER-RELATED DATA IN A TELECOMMUNICATIONS NETWORK

## Abstract

The invention discloses data records which are stored in one of a plurality of service devices, and an address list which keeps the other service devices which likewise keep the data record, with a change which is initiated by the customer being carried out on one of the service devices which keep that data record, and this service device reports the change to the other service devices.

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Description

Method for updating subscriber-related data in a telecommunications network.

5

The invention relates to a method as claimed in the precharacterizing clause of patent claim 1.

10 Local and trunk switching centers generally have access to external or integrated devices for producing announcements. Such announcements may be simple system announcements (for example: "number unobtainable") or announcements composed of individual fragments (for example: "This subscriber's telephone number has  
15 changed, the new telephone number is 123456"). Even complete dialogs for identification and activation of the desired function are offered in conjunction with the handling of intelligent network features (for example: calling card service) or for controlling  
20 subscriber service features by the subscriber (for example: block outgoing calls), with the aid of an announcement technique and DTMF/speech recognition.

25 Until now, the announcement and speech recognition data records required for this purpose have been subject to changes only very rarely, but the present-day competition between network operators has led to the frequency of changes to these data records having increased to a major extent:

30

For example, announcements must have up-to-date and informative contents. (For example: up-to-date advertising announcements from the company for callers who are waiting for a free line to this company's call  
35 center). It must be possible to produce dialogs for new services quickly, and this necessarily results in a more frequent need to change the announcement element and the keyword stores for the speech recognizer. In

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the same way, up-to-date information for fax retrieval when a large number of subscribers are calling at the same time must be produced on a daily basis (for example: television programs with additional  
5 information by fax retrieval).

In order to achieve the maximum level of flexibility, the network operators and their customers can, using the prior art, generate the databases associated with  
10 them by means of their own infrastructure (for example the customer's PC environment) and without any devices in the switching network, and can then supply these (for example by means of an ISDN dialed connection or via the Internet) to the announcement and dialog  
15 devices in the telecommunications network. By way of example, the major customer of a network operator can in this way update his announcement by transmitting the announcement (which has been produced on his PC) with the latest advertising content via a dialed connection  
20 to an announcement device, or simply by speaking the new announcement to the announcement device, using a telephone terminal.

In order to make it possible to produce such  
25 information, which is provided from devices in the telecommunications network, with sufficiently little blocking for large scale retrieval, this information is offered simultaneously by a large number of devices in the telecommunications network, with these devices also  
30 being distributed physically. The switching center which is associated, for example independently of the source, with a current connection request, in order to provide an announcement, dialog or fax retrieval, is in general accessed on the basis of a standard telephone  
35 number, which is applicable throughout the network, with functions being implemented by the intelligent network. This can be done, for example, based on the shortest route for the connection between the



subscriber and the selected switching center providing the desired announcement, fax or dialog function.

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5 The updating processes mentioned above relate to the databases stored in these devices. The updating process is preceded by an authorization check using a personal identification number (PIN), in the same way as any associated dialog with the user. After the updating process, a trial activation can be carried out, which  
10 is likewise controlled by the operator (for example monitoring the announcement or trial activation of the speech recognizer for new keywords). After this, the new database can be activated throughout the network. At this time, at the latest, it is necessary to make  
15 the updated data available both in the same switching center and throughout the network to all the announcement, fax retrieval and dialog machines associated with that respective network customer.

20 This results in the following technical problem:

How can the database (which is loaded in an announcement, fax retrieval or dialog device in a switching center for the purpose of trial activation)  
25 for an individual network customer be made available in the same switching center and throughout the network to all the announcement, fax retrieval and dialog devices associated with this customer, without the customer explicitly needing to address the devices involved and  
30 having to carry out and monitor sequential transmission of the updated database at the customer end. A further problem that arises in this case is that fault situations in the network (for example failure of a switching center or of a device that is involved) or  
35 changes to the network topology (for example extensions to the announcement capacity in the switching centers) can affect the operator interface of the announcement, fax retrieval and dialog customer, and may thus

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necessitate specific action. A further problem is that  
time restrictions (for example changes relating only to  
specific times of the day) or dependencies on the  
network operator (for example the use of maintenance  
5 personnel) exist and, finally, there is a risk of data  
being lost.

In the prior art, this has resulted in the installation  
of service devices in order to solve this problem.  
10 These are referred to as intelligent peripherals IP and  
are integrated either in the network nodes or in the  
peripherals of the switching centers.

However, a solution such as this results in the problem  
15 that changes which a network customer wants to make to  
his database are loaded exclusively by the network  
operator into the entire network, since only the  
network operator is able to address those switching  
centers which are relevant for the respective network  
20 customer and the large number of peripheral devices  
which are contained in these switching centers and have  
an integrated IP function. This results in time delays,  
out-of-date data, and dependency on the network  
operator.

25 The invention is based on the object of finding a way  
in which information can be updated from the customer  
end easily, reliably, at the right time and in a user-  
friendly manner.

30 Based on the precharacterizing clause of patent claim  
1, the invention is achieved by the features specified  
in the characterizing part of that claim.

35 The invention has the particular advantage that  
administrative measures are taken to ensure that, for  
each data record which is stored in one of the service  
devices, a list is kept of the addresses of the other

service devices which likewise keep this data record,  
that each data record can be addressed in a standard  
manner throughout the network, and that a change,  
initiated by the customer, to the data record is  
5 carried out on one, and only one, of the service  
devices which keep that data record, and this service  
device reports this change throughout the network to  
the other service devices. This is associated with the  
advantage that changes to the announcement, fax and  
10 dialog functions can be carried out not only by the  
network operator but also, in particular, by the  
customer himself.

Advantageous developments of the invention are included  
15 in the dependent claims.

The invention will be explained in more detail in the  
following text with reference to an exemplary  
embodiment, which is illustrated in the figures, in  
20 which:

Figure 1 shows the typical architecture of a  
communications system

Figure 2 shows an architecture of a service device  
25 which is integrated in a switching center,  
and

Figure 3 shows the connection processes and internal  
communication between integrated service  
devices.

30 Figure 1 shows the typical architecture of a  
communications system with unduplicated peripheral  
devices. A communications system such as this comprises  
peripheral devices  $LTG_1 \dots LTG_n$  (access devices for  
35 subscribers or lines), a central computer platform CP,  
a message distribution device MB, and other, central  
units (switching matrix SN, protocol termination

devices CCNC (for example #7), background memory MD, control devices BCT).

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5 The peripheral devices  $LTG_1 \dots LTG_n$  carry out major switching tasks associated with the speech channels of the peripheral device. They thus contain switching, operating and administrative programs as well as the data information associated with the device, such as the access situation, signaling, authorizations,  
10 telephone numbers, individual characteristics of connecting lines and subscriber connections, as well as the extent state and configuration of the peripheral device. Devices IP which have the function of service devices are integrated as part of an integrated  
15 solution in one of the peripheral devices  $LTG_{IP}$ .

The central computer platform CP is used for coordinating control of the setting up and clearing of connections and for the reactions to administrative  
20 configuration changes and configuration changes resulting from faults. The peripheral devices  $LTG_1 \dots LTG_n$  are connected to one another via the message distribution system MB, and are connected to the common computer platform CP. The other central system  
25 components provide the switching system with specific functions, for example for the connection of voice channels, the processing of signaling protocols, the provision of the operator interface, or the storage of bulk data.

30 Figure 2 shows how the service devices IP are inserted in a peripheral device  $LTG_{IP}$  in the communications system. In this case, the service devices IP are in the form of integrated announcement devices OCANEQ, with  
35 whose aid a further integrated announcement device OCANEQ is updated and customer announcements are made. Announcement, dialog and speech recognition functions are also integrated in the peripheral device  $LTG_{IP}$ .

First of all in figure 2, the process of setting up a connection  $V_1$  to an integrated announcement device OCANEQ via an analog connecting line or an ISDN connecting line is controlled by a subscriber (direct recording). The process of setting up connections can likewise be controlled separately via a PC. Once the speaking of the announcement text to the integrated announcement device OCANEQ has been completed, the latter sets up a further connection  $V_2$  to a further integrated announcement device OCANEQ in a further peripheral device LTG (single update). The integrated announcement device OCANEQ arranged there is updated using the announcement text. If the original integrated announcement device OCANEQ has failed, a further connection  $V_3$  can be set up to once again store the transmitted announcement text back in the original integrated announcement device OCANEQ on startup (mass update after repair).

One refinement of the invention provides for the service devices to be integrated as external service devices IP or external intelligent peripherals IP - referred to as IPs, for short, in the following text - in the switching nodes.

The invention now provides for the announcement, fax retrieval and dialog capacities of the telecommunications network to be administered. In particular in this case, an association is made between the specific capacity and the customer using this capacity. The peripheral devices  $LTG_{IP}$  which provide the corresponding customer announcements, fax retrieval data or speech recognition data in the communications systems or external intelligent peripherals IP are informed, in the course of administration of these network functions, of the list (which is associated with the respective data record to be stored) of all the other integrated or external intelligent

peripherals IP in the network which keep this data record available. In this case, the data record is identified by a standard network index (for example the fragment number of the announcement fragment).

5 Furthermore, the list of the further internal or external intelligent peripherals IP includes the network-standard addresses of the IPs themselves. In general, this may be a list of telephone numbers which are applicable throughout the network, and in the case  
10 of integrated IPs, it may also include the connection situations of the integrated IPs applicable within the switching center.

When setting up a new database, deleting an existing  
15 database or making changes to the network topology (for example upgrading the devices in the network which provide the desired function), the relevant address lists in the associated IPs are updated within the switching center and/or throughout the network. Each IP  
20 thus knows the address of the other IPs which are associated with each customer-specific data record and keep this data record. Furthermore, the data record for each relevant IP can be addressed in a standard manner throughout the network.

25 During operation, the customer-specific data records are called up on the basis of widely differing criteria (for example as a function of the load or as a function of the source) via the IPs which keep that data record.  
30 If a customer wishes to update his data record (for example to load the current advertisement for today), then, in principle, he can be routed to each of the IPs which keep this data record, for the purpose of updating, trial activation and subsequent activation of  
35 the data record throughout the network. This is particularly advantageous for providing an updating functionality which is available as widely as possible. The previous data record remains fully available

throughout the network during the loading of the updated data record and trial activation.

If the customer is satisfied with the trial activation,  
5 he initiates the updating of the data record throughout the network. This means that the new data record is made available to be called up in the network in the IP addressed for the purpose of updating, and the previous data record is deactivated or deleted. (The newly  
10 loaded announcement is thus, in the simplest case, available at this stage via the IP that handles the updating process while, in contrast, the further IPs, which provide this customer announcement, are still in the short term playing the previous announcement until  
15 they are updated.)

A background process in the first IP to be updated now carries out the task of updating the data record to be updated in the other IPs. On the basis of the list  
20 (mentioned above) of the other IPs with this data record, this IP now sets up successive temporary connecting paths to a further IP in which said data record is to be updated. Such connecting paths may be dialed connections (that is to say, in principle, one  
25 IP successively calls all the other IPs that are affected) or switching operations, within the switching center, between integrated IPs, that is to say usages of a port of a relevant further IP.

30 Once the updating has been carried out, connections such as these are cleared down once again. If it has been possible to set up a connection, then the actual updating, that is to say the transmission of the amended data record in the further IP, requires  
35 communication between the IPs that are involved. For example, the IP that is being addressed must know the index of the data record to be updated. The nature of the update may also need to be signaled (for example,

in the case of announcements, the playing of the start and end tone, or protocol-protected transmission via PPP). It must also be possible to transmit the readiness of the addressed IP for updating, as well as  
5 success acknowledgement, failure acknowledgement and repetition request, between the two IPs. Network-wide user-to-user messages and/or reports carried within the switching center via the message distribution system may also be used for such information interchange  
10 between the relevant IPs. If it is not possible to contact an IP to be updated, as can occur, for example, due to hardware failures, then the background process mentioned above will start updating attempts once again, cyclically. An updating connection which has  
15 been switched to another IP can be used to update a number of data records. This connection is expediently cleared only when there are no further data records for this IP, which is setting up the connection, to be updated in the direction of the further IP.

20 Particularly when long data records need to be distributed between a large number of IPs, the time required for a complete network-wide update may rise in an unacceptable manner. In cases such as this, the  
25 updating connection may be given a wider bandwidth (for example  $n \times 64$  kbit/s), and/or a number of other IPs may be updated at the same time.

If a customer amends his data record within a short  
30 time period, then it is feasible for a further update to the same data record to be initiated by a second IP even before completion of the first network-wide or switching-center-internal update of the data record by a first IP.

35 From the point of view of a further, third IP to be updated, the already obsolete data record could thus in principle overwrite the more recent customer data



record that had already been stored here, as a result of the background processes for updating of this data record being active at the same time. In order to preclude such situations, the time at which the updated data recorded is loaded by the customer is also stored as a time stamp in the data describing the data record. Since an obsolete data record should never overwrite a more recent data record, it is possible to compare the associated time stamps to ensure that only the actually up-to-date data record is disseminated throughout the network and within the switching center.

When an IP that has failed becomes available again after being repaired, it can explicitly request that its databases be updated by one of the other IPs by setting up an updating connection (possibly with a wider bandwidth), and by corresponding communication with the further IP.

Figure 3 shows the possible switching processes and internal communication between integrated IPs for updating customer-specific announcement data records. In particular, this indicates how the connection  $V_2$  is set up from the integrated announcement device  $OCANEQ_0$  in the peripheral device  $LTG_0$  to the integrated announcement device  $OCANEQ_1$  in the peripheral device  $LTG_1$ . In this case, the peripheral device  $LTG_0$  first of all makes use of a port on the integrated announcement device  $OCANEQ_0$  and a port on the integrated announcement device  $OCANEQ_1$ . These connection requests are processed by the central control device CP. This results in the control device CP transmitting to the peripheral device  $LTG_0$  the set-up C (port x), set-up C (port y) and seizure CBT (port y, channel y) messages. Furthermore, the control device CP transmits the seizure CBT (port x, channel x) message to the peripheral device  $LTG_1$ . The peripheral device  $LTG_0$  then transmits the set-up complete message to the peripheral device  $LTG_1$ , which

sends an acknowledgement message address complete to the peripheral device  $LTG_0$ .

5 The actual updating of the newly addressed announcement text is then carried out by the peripheral device  $LTG_0$ . To do this, it sends the message Start Update Fragments via Port x (bit-stream/message based) to the peripheral device  $LTG_1$ . This message is acknowledged by a ready message. After this, the peripheral device  $LTG_0$  sends  
10 the update fragment n message to the peripheral device  $LTG_1$ , which acknowledges this message with the message ready or rejected. Finally, an executed message is transmitted to the peripheral device  $LTG_0$  which, as the final action, transmits the end update fragments  
15 message to the peripheral device  $LTG_1$ , which terminates the updating sequence, with this being acknowledged by an acknowledgement message. The connection  $V_2$  which has been set up between the integrated announcement devices  $OCANEQ_0$ ,  $OCANEQ_1$  via local switching matrices GS  
20 arranged in respective peripheral devices  $LTG_0$ ,  $LTG_1$  is then cleared.

## Patent Claims

1. A method for updating subscriber-related data records, which are stored locally in a number of service devices (IP, OCANEQ) in a switching network,  
characterized  
in that administrative measures are taken to ensure that, for each data record which is stored in one of the service devices (IP, OCANEQ), a list is kept of the addresses of the other service devices (IP, OCANEQ) which likewise keep this data record,  
in that each data record can be addressed in a standard manner throughout the network, and in that a change, initiated by the customer, to the data record is carried out on one, and only one, of the service devices (IP, OCANEQ) which keep that data record, and this service device (IP, OCANEQ) reports this change throughout the network to the other service devices (IP, OCANEQ).
2. The method as claimed in claim 1,  
characterized  
in that the service devices are included in the peripherals of a communications system (OCANEQ).
3. The method as claimed in claim 1,  
characterized  
in that the service devices are included in the network nodes of a switching network.
4. The method as claimed in claims 1 to 3,  
characterized  
in that the lists are updated in the course of administration of the switching network or of the communications system.

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5. The method as claimed in claims 1 to 4,  
characterized  
in that the old data record is kept available  
until the initiation of the network-wide or  
switching-center-wide updating by the customer.
6. The method as claimed in one of the preceding  
claims,  
characterized  
in that the data record is updated by those  
service devices (IP, OCANEQ) which initially have  
the new data record, in the course of a background  
process for successive updating of the other  
service devices (IP, OCANEQ).
7. The method as claimed in one of the preceding  
claims,  
characterized  
in that repeated cyclic updating attempts are  
carried out in the background process if the  
service devices (IP, OCANEQ) to be updated are  
inaccessible or the attempts are unsuccessful.
8. The method as claimed in one of the preceding  
claims,  
characterized  
in that use is made, when required, of connections  
which have been made temporarily between the  
service devices (IP, OCANEQ) in order to update  
the data records.
9. The method as claimed in one of the preceding  
claims,  
characterized  
in that an update-specific communication takes  
place between the service devices (IP, OCANEQ) via  
a switching-center-internal message distribution  
system (MB) or, throughout the network, via ISDN

user-to-user signaling, or switching-center internally and throughout the network via the Internet Protocol.

10. The method as claimed in one of the preceding claims,  
characterized  
in that a number of data records are updated via one updating connection once it has been connected.
11. The method as claimed in one of the preceding claims,  
characterized  
in that the updating format is defined in the course of the communication between the service devices (IP, OCANEQ).
12. The method as claimed in one of the preceding claims,  
characterized  
in that the time required for updating is reduced by multiple channel connection and/or multiple starting of the background process.
13. The method as claimed in one of the preceding claims,  
characterized  
in that the customer allocates a time stamp to the update in order to prevent the current data record from being overwritten by older data records when a number of updating background processes are carried out at the same time.
14. The method as claimed in one of the preceding claims,  
characterized

in that explicit activation of the background processes of service devices (IP, OCANEQ) which are still in operation is carried out in order to update service devices (IP, OCANEQ) which are being taken back into operation again after repair, without delay and quickly.

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## Abstract

Method for updating subscriber-related data in a telecommunications network.

One problem that arises in the prior art is that a change to announcement texts or to fax texts, which a network customer wishes to make, can be carried out only by the network operator. The invention provides a remedy for this in that, for each data record which is stored in one of the service devices, an address list is kept of the other service devices which likewise keep this data record, with a change which is initiated by the customer being carried out on one, and only one, of the service devices which keep that data record, and this service device reporting the change to the other service devices.

Figure 2

FIG 1

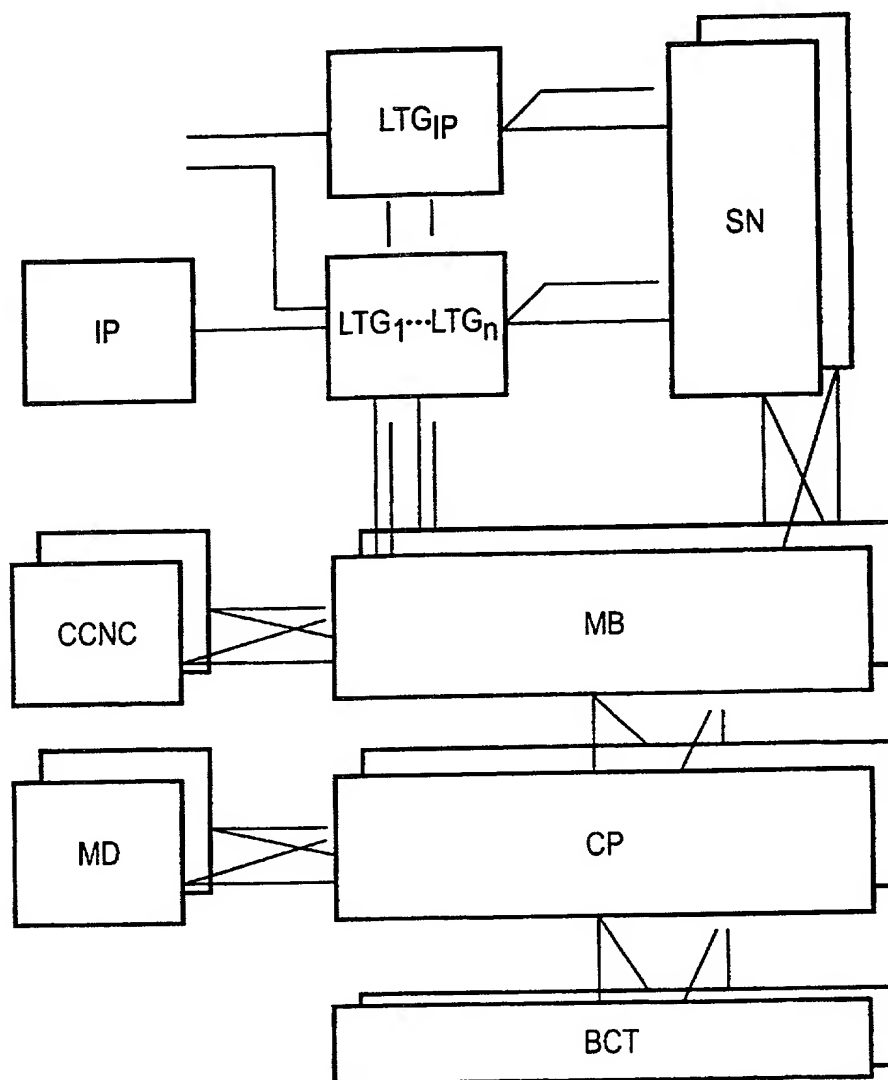




FIG 2

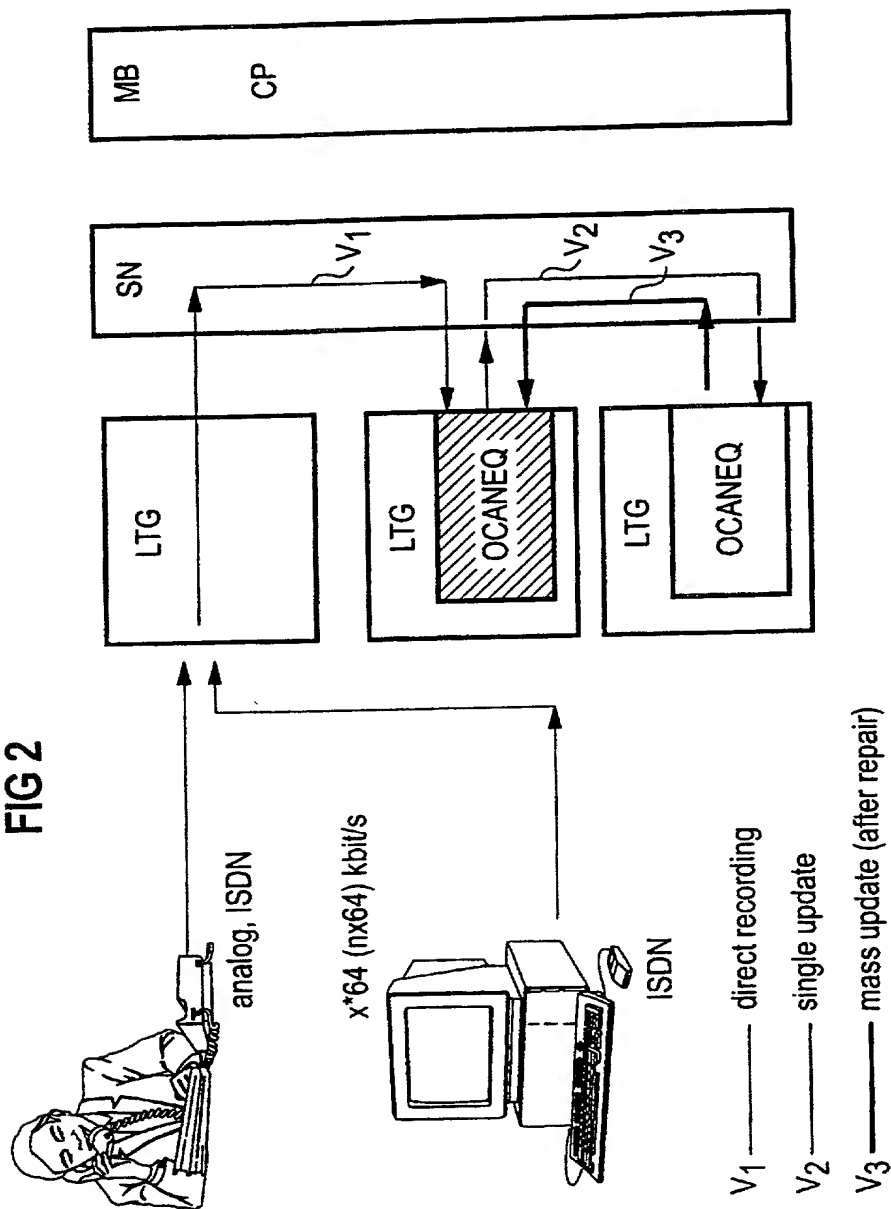
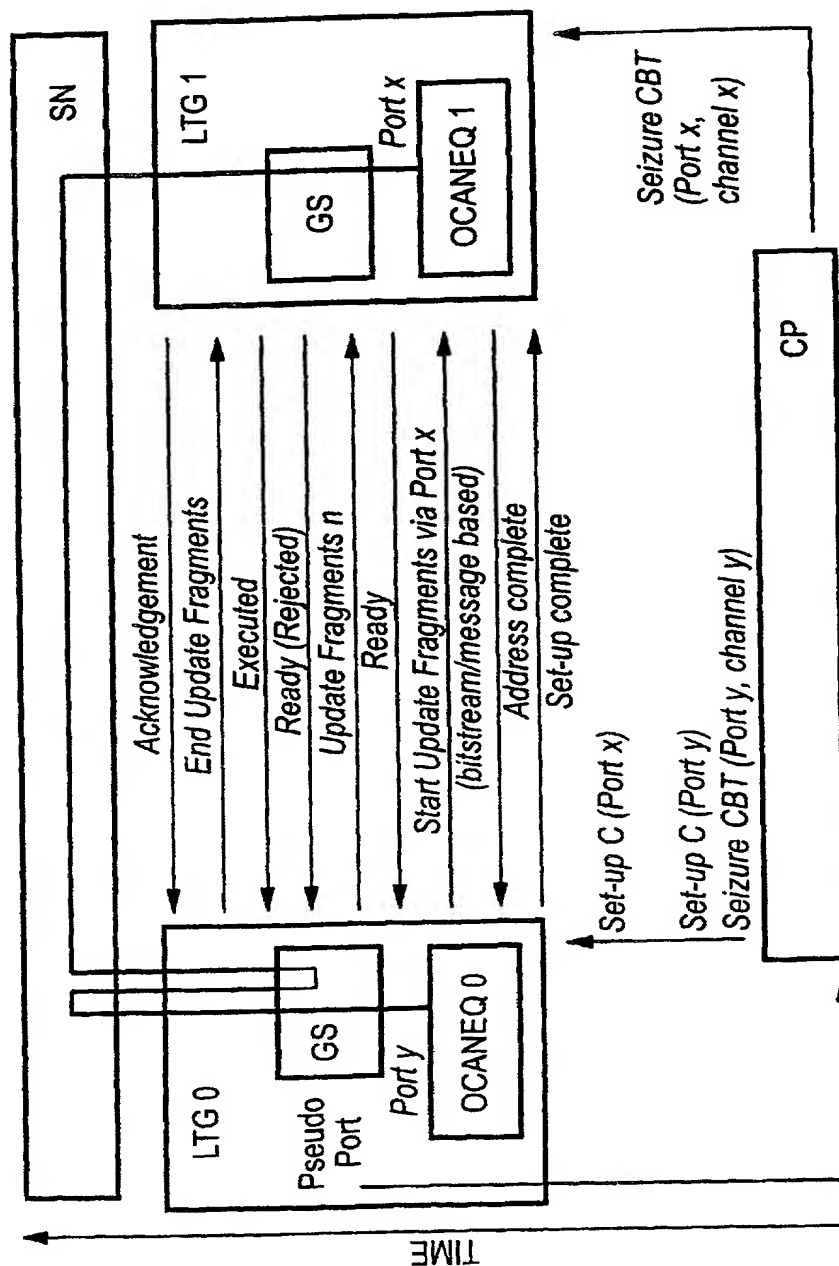


FIG 3



## IDNR: 2590 / V: 99-1.00 / B:Val

# German Language Declaration

Prior foreign applications  
Priorität beansprucht

Priority Claimed

19939057.6

DE

18.08.1999

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(Number)  
(Nummer)

(Country)  
(Land)

(Day Month Year Filed)  
(Tag Monat Jahr eingereicht)

Yes  
Ja

No  
Nein

(Number)  
(Nummer)

(Country)  
(Land)

(Day Month Year Filed)  
(Tag Monat Jahr eingereicht)

☐  
Yes  
Ja

☐  
No  
Nein

(Number)  
(Nummer)

(Country)  
(Land)

(Day Month Year Filed)  
(Tag Monat Jahr eingereicht)

☐  
Yes  
Ja

☐  
No  
Nein

Ich beanspruche hiermit gemäss Absatz 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 120, den Vorzug aller unten aufgeführten Anmeldungen und falls der Gegenstand aus jedem Anspruch dieser Anmeldung nicht in einer früheren amerikanischen Patentanmeldung laut dem ersten Paragraphen des Absatzes 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 122 offenbart ist, erkenne ich gemäss Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) meine Pflicht zur Offenbarung von Informationen an, die zwischen dem Anmeldedatum der früheren Anmeldung und dem nationalen oder PCT internationalen Anmeldedatum dieser Anmeldung bekannt geworden sind.

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §122, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

PCT/DE00/02763

(Application Serial No.)  
(Anmeldeseriennummer)

16.08.2000

(Filing Date D, M, Y)  
(Anmeldedatum T, M, J)

anhängig

(Status)  
(patentiert, anhängig,  
aufgegeben)

pending

(Status)  
(patented, pending,  
abandoned)

(Application Serial No.)  
(Anmeldeseriennummer)

(Filing Date D,M,Y)  
(Anmeldedatum T, M, J)

(Status)  
(patentiert, anhängig,  
aufgeben)

(Status)  
(patented, pending,  
abandoned)

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## German Language Declaration

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DE		DE <i>DEX</i>	
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Unterschrift des Erfinders	Datum	Second Inventor's signature	Date
Wohnsitz		Residence	
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